IN THE CLAIMS:

1   1-34 (CANCELLED)

1   35. (PREVIOUSLY PRESENTED) A layer three device for connection to a computer

2   network having at least one server, the layer three device having a plurality of interfaces

3   each representing a logical connection to the computer network, the layer three device

4   comprising:

5   a message transmitter connected to the computer network; and

6   a message receiver connected to the computer network,

7   wherein the message transmitter is configured and arranged to formulate and

8   broadcast a discover message from an interface of the layer three device that provides

9   connectivity via the network to the server, the discover message indicating that the layer

10   three device is requesting assignment of one or more Internet Protocol (IP) addresses for

11   an interface lacking connectivity to the at least one server, and the message receiver is

12   configured and arranged to receive and examine an offer sent by the at least one server,

13   that includes at least one or more proffered IP addresses for assignment to the interface

14   lacking connectivity to the at least one server.

1   36. (PREVIOSULY PRESENTED) A layer three device as defined in claim 35 wherein

2   the message transmitter is configured and arranged to formulate and send to the server a

3   request message, in response to the offer, indicating that the layer three device has ac-

4   cepted the proffered one or more IP addresses for the respective interface and the mes-

5   sage receiver is configured and arranged to receive and examine an acknowledgment

6   from the at least one server that confirms its receipt of the request message.

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1   37. (PREVIOSULY PRESENTED) A layer three device as defined in claim 35 wherein

2   the discover message contains an option that is marked by the layer three device to indi-

3   cate that it is requesting assignment of one or more IP addresses for an interface lacking

4   connectivity to the at least one server.

1   38. (PREVIOSULY PRESENTED) A layer three device as defined in claim 35 wherein

2   the offer contains an option that is marked by the at least one server to indicate that the

3   corresponding message contains one or more proffered IP addresses for assignment to the

4   interface lacking connectivity to the at least one server.

1   39. (PREVIOSULY PRESENTED) A layer three device as defined in claim 35 wherein

2   the offer includes a variable length IP address bearer option.

1   40. (PREVIOSULY PRESENTED) A layer three device as defined in claim 35 wherein

2   the offer message a includes a routing parameter option.

1   41-45 (CANCELLED)

1   46. (PREVIOUSLY PRESENTED) A computer readable medium comprising computer

2   executable instructions for:

3   broadcasting a discover message only from an interface of a layer three device

4   that provides connectivity via the network to a server, the discover message indicating

5   that the layer three device is requesting assignment of one or more Internet Protocol (IP)

6   addresses for an interface lacking connectivity to the server;

7   receiving an offer message, in response to the discover message, the offer mes-

8   sage including at least one or more proffered IP addresses for assignment to the interface

9   lacking connectivity to the server;

10   sending a request message, in response to the offer message, the request message

11   indicating that the layer three device has accepted the proffered one or more IP addresses

12   for the interface lacking connectivity to the server;

13   receiving an acknowledgment, in response to the request message, confirming re-

14   ceipt of the request message; and

15   committing the accepted IP address at the interface lacking connectivity to the

16   server of the layer three device in response to the acknowledgment.

1   47-48 (CANCELLED)

1   49. (NEW) A layer three device as defined in claim 35 wherein the layer three device is

2   an intermediate device operating at the network layer of a communication protocol stack

3   implemented within the computer network.

1   50. (NEW) A layer three device as defined in claim 49 wherein the intermediate device is

2   a router.

1   51. (NEW) A layer three device as defined in claim 35 wherein the message transmitter is

2   further configured and arranged to formulate and broadcast a discover message from the

3   interface lacking connectivity to the at least one server, the discover message requesting

4   assignment of one or more IP addresses for the interface lacking connectivity to the at

5   least one server, and wherein the message receiver is further configured and arranged to

6   verify that an offer is not received in response to the discover message from the interface

7   lacking connectivity to the at least one server.

1   52. (NEW) A layer three device as defined in claim 35 wherein the offer sent by the at

2   least one server includes a subnet mask for use with the interface lacking connectivity to

3   the at least one server.

1   53. (NEW) A layer three device as defined in claim 35 wherein the offer sent by the at

2   least one server includes, for each proffered IP address, a corresponding lease time indi-

3   cating a life of the respective proffered IP address.

1   54. (NEW) A method comprising:

2   broadcasting a discover message from an interface of a layer three device that

3   provides connectivity to a server, the discover message indicating that the layer three de-

4   vice is requesting assignment of a Internet Protocol (IP) address for an interface of the

5   layer three device lacking connectivity to the server;

6   receiving an offer message from the server, on the interface that provides connec-

7   tivity to the server, the offer message including a proffered IP addresses for assignment to

8   the interface lacking connectivity to the server; and

9   assigning the proffered IP address to the interface of the layer three device lacking

10   connectivity to the server.

1   55. (NEW) The method as defined in claim 54 further comprising:

2   sending a message, in response to the offer message, the message indicating that

3   the layer three device has accepted the proffered IP address for the interface lacking con-

4   nectivity to the server; and

5   receiving an acknowledgment, in response to the message, confirming receipt of

6   the message.

1   56. (NEW) The method as defined in claim 54 further comprising:

2   marking an option in the discover message, by the layer three device, to indicate

3   that the layer three device is requesting assignment of an address for an interface lacking

4   connectivity to the at least one server.

1   57. (NEW) The method as defined in claim 54 wherein the layer three device is an in-

2   termediate device operating at the network layer of a communication protocol stack im-

3   plemented within a network.

1   58. (NEW) The method as defined in claim 57, wherein the intermediate device is a

2   router.

1   59. (NEW) The method as defined in claim 54, further comprising:

2   broadcasting a discover message from the interface lacking connectivity to the

3   server, the discover message requesting assignment of one or more IP addresses for the

4   interface lacking connectivity to the server; and

5   verifying that an offer is not received in response to the discover message from

6   the interface lacking connectivity to the server.

1　60. (NEW) The method as defined in claim 54 wherein the offer sent by the server in-

2　cludes a subnet mask for use with the interface lacking connectivity to the server.

1　61. (NEW) The method as as defined in claim 54 wherein the offer sent by the server in-

2　cludes, for each proffered IP address, a corresponding lease time indicating a life of the

3　respective proffered IP address.

1　62. (NEW) The method as defined in claim 54 wherein the offer sent by the server in-

2　cludes an identification of a routing protocol to be used by the layer three device with the

3　interface lacking connectivity to the server.